

**SITE INVESTIGATION
SIXTY MINUTE CLEANERS
ROCK HILL, SOUTH CAROLINA
YORK COUNTY
SCS 123 457 884**

Prepared for:



**U.S. ENVIRONMENTAL PROTECTION AGENCY
Region 4
61 Forsyth Street
Atlanta, Georgia 30303**

Prepared by:



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December 8, 2020

A handwritten signature in black ink, appearing to read "Ben D. Bair".

Prepared by:

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SCDHEC**

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**ALAYNA
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1.0 INTRODUCTION

Under the authority of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) and the Superfund Amendments and Reauthorization Act of 1986 (SARA), the Site Assessment Section, South Carolina Department of Health & Environmental Control (DHEC) conducted a Site Investigation (SI) at the Sixty Minute Cleaners site in York County, South Carolina. The information gathered from this investigation will be used to decide if the site needs additional assessment under federal Superfund or if it should be managed by some other means.

2.0 LOCATION

The site is located at 1150 Cherry Road Rock Hill, SC (Reference #1). The site is situated on the south side of Cherry Road approximately 2.35 miles southwest of the intersection of Cherry Road and I-77 (Reference #2) (Figure 1,2). Geographic coordinates for the site are 34.950911 North, -81.017953 West (Reference #3) (Appendix B).

3.0 OWNERSHIP

Tax Map ID #6311406004 (Reference #1)

Prior to 1995	Unknown
1995 – 2011	Patsy W. Freeman (Reference #4)
2011 – present	Dent Out, LLC. (Reference #5)

Mailing Address of Current Property Owner

Hunt Irwin
Dent Out, LLC
1774 Herndon Farm Rd.
Rock Hill, SC 29732
(Reference #6)

4.0 SITE HISTORY and DESCRIPTION

The former Sixty Minute Cleaners began operation in 1963 and used tetrachloroethene (PCE) as a solvent until 1997. The site is in a mixed residential and commercial portion of York County (Reference #7). The standalone building is currently occupied by 1st Pane Auto Glass, a business that repairs and installs auto glass. To the north of the facility building is Cherry Road followed by standalone businesses including a Carpet and Rug Superstore, Bank of America Financial Center, You Select Auto Sales, and Wal-Mart Neighborhood Market. Royal Plaza is also in the vicinity of the site. Royal Plaza is a strip mall that houses several businesses including SouthPaw screen printing, an employment office, and a driving school. Southpaw printing utilizes three suites in the building. One suite involves sales of printed items to the public. The other two suites are used for production and creation of printed materials. Carolina Best Title Loans is located to the east. Private residences are located to the south, and Cindy's Flower shop is located to the west (Figure 2) (Appendix A).

The former Sixty Minute Cleaners facility was part of SCDHEC's Drycleaning Facility Restoration Trust Fund (DFRTF) until it was deemed ineligible for the program in May 2016 due to non-payment of fees (Reference #6). Shortly thereafter, the project was transferred to SCDHEC's Federal and State Site Assessment (FSSA) section (Reference #8)

Past Site Investigations

On December 9, 2008, Ecology & Environment (E&E) conducted an Expanded Initial Assessment (EIA) at the Sixty Minute Cleaners Facility. Three shallow groundwater grab samples were collected using direct push techniques at locations surrounding the drycleaner facility. Chlorinated solvents were present in DP01, DP02, and DP03 at levels exceeding the Maximum Contaminant Level (MCL) for PCE (5 µg/L) at 78 µg/L, 3100 µg/L, and 58,000 µg/L respectively. In addition, PCE was detected in a nearby stream at levels below the MCL. Based on data collected during the EIA, further assessment of the drycleaning facility was deemed necessary (Reference #7).

A data report submitted to SCDHEC by Ecology & Environment dated July 29, 2016 showed the presence of a widespread groundwater plume originating at the Sixty Minute Cleaners site and extending approximately 1300 ft north-northwest with a width of approximately 350 ft (Figure 3). The report also verified the presence of chlorinated solvent contamination in the downgradient surface water body sampled in the previous investigation (Figure 3) (Reference #7)

After the site was transferred from SCDHEC's Drycleaning program to SCDHEC's FSSA section, an Extended Pre-CERCLIS Screening (ePCS) dated, May 7, 2019, was conducted on the site. The ePCS report concluded that the site should be placed on CERCLIS and further investigation into the groundwater, surface water, subsurface vapor intrusion, and indoor air pathways was warranted (Reference #9)

Potential Source Areas & Additional Areas of Concern (AOC)

Potential sources areas at the site include the former Sixty Minute Cleaners property. A large groundwater plume originates at the property and extends approximately 1,300 ft. north-northwest from the site and is approximately 350 ft. wide. However, the full horizontal extent of the plume was not delineated prior to this report. Two profile locations (DP18 and DP19) near the northeast corner of the plume show MCL exceedances extending to depths between 11 and 25 ft below ground surface (bgs) (Figure 3) (Reference #7). Due to issues during prior investigations obtaining property access to certain parcels, there were no additional profile locations beyond this edge of the plume heading in a northeast direction. This SI attempted to fully delineate the extent of the groundwater plume (Reference #9) (Figure 4).

The data report submitted on July 29, 2016 showed that chlorinated solvents were present in a stream located west and north-northeast of the known groundwater plume associated with the site. Multiple samples were collected from the stream, but the furthest downgradient sample still contained chlorinated solvents (Reference #7). This SI attempted to fully delineate the extent of chlorinated solvents in the surface water pathway (Figure 4).

In addition, this SI attempted to determine the horizontal extent of any soil gas plume associated with the known groundwater plume. The use of in-situ Beacon® samplers was employed to accomplish this task. Thirty (38) sampling locations were chosen surrounding buildings located inside the known horizontal extent of the groundwater plume to characterize the extent of any associated soil gas plumes (Figure 4).

Indoor air samples were collected inside buildings with the strongest likelihood of having existing indoor air contamination. Five (5) summa canisters were deployed as part of the investigation in order to accomplish this task (Figure 4). Indoor air samples were collected to determine the potential for direct human contact with the contamination associated with the Sixty Minute Cleaners site.

5.0 PATHWAY EVALUATION

5.1 GROUNDWATER MIGRATION PATHWAY

Based on data collected from this investigation and previous investigations conducted at the site, depth to groundwater in the surficial aquifer across the horizontal extent of the known groundwater contamination plume is roughly 10-15 ft bgs. Based on general topography of the landscape and the dispersion of chlorinated solvents from the source at the former Sixty Minute Cleaners to the furthest downgradient areas of the plume, groundwater flows in a north-northeast direction towards the intermittent stream located west and north of the Wal-Mart Neighborhood Market property boundary (Appendix C) (Figure 3) (Figure 4).

To define the horizontal extent of dissolved drycleaning related groundwater contamination beyond the extent of the known groundwater plume, a total of five (5) direct push groundwater wells were installed just beyond the northeast corner of the plume (Figure 4) as part of the investigation. Depth to groundwater was approximately 15 ft bgs at all sampling locations. Table 1 below summarizes the data from the temporary groundwater monitoring wells.

Table 1

Sample ID	GPS Coordinates	Depth (ft)	Time (hrs)	Colortec Result	Conc. Range(ppb)
SMC-056-GW	34.953380 -81.017197	15-19	N/A	ND	0
SMC-057-GW	34.953816 -81.017671	15-19	N/A	ND	0
SMC-058-GW	34.954070 -81.017906	15-19	N/A	ND	0
SMC-059-GW	34.954301 -81.018192	15-19	N/A	ND	0
SMC-060-GW	34.954450 -81.018495	15-19	N/A	ND	0

ND = Non-detect

N/A = Not applicable

mL = milliliters of air

ppb = parts per billion

*All samples were collected on 7-21-20

*All GPS coordinates collected from ArcGIS Collector app (Ben Bair's SCDHEC issued iPhone)

All samples collected were screened for total chlorinated solvents using the AQR Colortec® method (Reference 10). There was no chlorinated solvent contamination found beyond the northeastern border of the existing chlorinated solvent plume in groundwater.

There are approximately six private water drinking wells within a one-mile radius of the site. One of the wells is located east of the site. Five of the wells are located northwest of the site (Reference #11). None of the private wells are in the north-northeastern path of the groundwater plume

associated with the former Sixty Minute Cleaners site. There are no public water supply wells within a one-mile radius of the site. (Figure 5) (Reference #11).

5.2 SURFACE WATER MIGRATION PATHWAY

An unnamed intermittent stream originates approximately 0.1 miles to the west of the site just west of the Carpet and Rug Superstore. The stream flows to the north-northeast for approximately 0.75 miles before emptying into a bottomland drainage basin north of the site. The drainage basin is adjacent to a shipping and logistics company (Figure 6). The intermittent stream terminates in the drainage basin and has no visible connection to any perennial surface water bodies in the area.

The location of the stream was originally determined during a site-recon dated December 17, 2019 (Reference C). However, at the time stream samples were collected as part of the SI in July 2020, the upper portion of the stream had disappeared. In July 2020, the stream appeared to originate from underneath Walmart Neighborhood Market property (Appendix C). Proposed sampling locations were altered at the time of sampling to accommodate the new location of the stream (Figure 7).

Six (6) surface water samples were collected as part of the July 2020 field investigation. Figure 7 depicts the location of those samples. Table 2 below summarizes the results.

Table 2

Sample ID	GPS Coordinates	Depth (ft)	Time (hrs)	Colortec Result	Conc. Range(ppb)
SMC-042-SW	34.953341 -81.018551	N/A	N/A	0.6/LL/200 mL	10-20
SMC-043-SW	34.953520 -81.019177	N/A	N/A	0.75/LL/100 mL	40-75
SMC-044-SW	34.953901 -81.019028	N/A	N/A	0.6/LL/100 mL	25-45
SMC-045-SW	34.954367 -81.019097	N/A	N/A	0.5/LL/200 mL	25-45
SMC-046-SW	34.954882 -81.019193	N/A	N/A	Trace/LL/200 mL	Trace
SMC-047-SW	34.955405 -81.019239	N/A	N/A	ND/LL/100	0

ND = Non-detect

N/A = Not applicable

mL = milliliters of air

ppb = parts per billion

*All samples were collected on 7-23-20

*All GPS coordinates collected from www.latlong.com (Reference #3)

All samples collected were screened for total chlorinated solvents using the AQR Colortec® method (Reference 10). SMC-042-SW was the furthest upgradient sample collected. This sample was collected from the area that the stream originates under the Wal-Mart Neighborhood Market property (Appendix C). SMC-047-SW was the furthest downgradient sample.

Chlorinated solvents were detected in SMC-042-SW and are present as far downgradient in the stream as SMC-046-SW. No chlorinated solvents were present in SMC-047-SW.

5.3 SOIL EXPOSURE / AIR PATHWAYS

The site is in Rock Hill, SC, southwest of I-77 on Cherry Road (Figure 1). On-site soil is classified as the Urban land Brewback complex which consists of a somewhat poorly-drained soil with a typical profile of:

0 – 4 in	Fine sandy loam
4 – 10 in	Sandy clay loam
10 – 30 in	Clay
30 – 36 in	Clay
36 – 80 in	Weathered bedrock

(Reference #12)

The stand-alone building on the property is currently being used as an auto glass repair and installation shop (Appendix C).

There are four schools within a one-mile radius of the site and there are no daycares within a one-mile radius (Reference #2). The site is capped with asphalt, so direct contact with any potentially contaminated soils associated with the site is unlikely.

Subsurface Vapor Intrusion Evaluation

This SI attempted to identify and characterize any soil gas plumes associated with the site. The use of in-situ Beacon® samplers were employed to accomplish this task. Thirty (38) sampling locations were chosen surrounding buildings where the potential for subsurface vapor intrusion was present. These buildings included Cindy's Flower Shop (SMC-001-SG through SMC-008-SG), Carolina's Best Title Loans (SMC-016-SG through SMC-023-SG), Bank of America (SMC-09-SG through SMC-015-SG), Royal Plaza (SMC-024-SG through SMC-031-SG), and Walmart Neighborhood Market (SMC-032-SG through SMC-038-SG). Figures 9 through 11 show the distribution of concentrations of tetrachloroethylene (PCE), trichloroethylene (TCE), and cis-1,2-dichloroethylene (cis-1,2 DCE) across the Sixty Minute Cleaners site (Reference #13).

PCE was present in soil gas at the Cindy's Flower Shop property, Carolina's Best Title Loan property, Bank of America property, Royal Plaza property, and Walmart Neighborhood Market Property (Figure 9). TCE was present in soil gas on Cindy's Flower Shop property, and Bank of America property (Figure 10). cis-1,2-DCE was present in soil gas on Cindy's Flower shop property, Carolina Best Title Loans property, and Bank of America property (Figure 11). The highest concentrations of chlorinated solvents present in soil gas were found closest in proximity to the Sixty Minute Cleaners site near its southwestern and northwestern property boundary with Cindy's Flower shop (Figure 9).

Indoor Air Evaluation

Indoor air samples were collected inside buildings in the vicinity of the site with the strongest likelihood of having existing indoor air contamination. Five (5) summa canisters were deployed as part of the investigation in order to accomplish this task (Figure 4) (Appendix C). Each 6L canister was equipped with an 8-hr flow controller and deployed at its corresponding sampling location. Table 3 below summarizes the results from these samples.

Table 3

Sample ID	GPS Coordinates	PCE (ug/m3)	TCE (ug/m3)
		RSL = 47 ug/m3	RSL = 3 ug/m3
SMC-049-IA	34.9530966 -81.018025	110	4.8
SMC-050-IA	34.952140 -81.019028	930	N/D
SMC-052-IA	34.9532254 -81.018807	92	N/D
SMC-053-IA	34.952140 -81.018741	12	N/D
SMC-055-IA	34.952435 -81.018495	7.2	N/D

RSL = USEPA Regional Screening Level

RSL Exceedance

N/D = Non-detect

*All samples collected on 7-21-20

* GPS Coordinates for SMC-049-IA collected from www.latlong.net

* GPS Coordinates for SMC-049-IA through SMC-055-IA collected using ArcCollector (Reference #14)

PCE and TCE exceeded their respective RSLs in SMC-049-IA. This sample was collected at the location of the former Sixty Minute Cleaners. PCE exceeded its RSL in SMC-050-IA. This sample was collected in the Southpaw screen printing business / sales office. PCE exceeded its RSL in SMC-052-IA. This sample was collected in the subunit within Royal Plaza which is currently an empty office space.

The indoor air exceedances in SMC-049-IA and SMC-052-IA are presumed to be caused by the intrusion of soil gas vapors from the existing chlorinated solvent groundwater plume associated with the Sixty Minute Cleaners site. The concentration of PCE found in SMC-050-IA is greater than 19 times its respective RSL. There is a possibility that the indoor air contamination in the Southpaw Screen Printing business / sales office could be caused by the use of PCE/TCE at that facility. The list of chemicals used by the facility and their associated Safety Data Sheets has been requested but was unavailable for this report.

6.0 SUMMARY AND CONCLUSIONS

The former Sixty Minute Cleaners began operation in 1963 and used PCE as a solvent until 1997. The site is in a mixed residential and commercial portion of Rock Hill. The standalone building is currently occupied by 1st Pane Auto Glass, a business that repairs and installs auto glass. To the north of the facility building is Cherry Road followed by standalone businesses including a Carpet and Rug Superstore, Bank of America Financial Center, You Select Auto Sales, and Wal-Mart Neighborhood Market. Royal Plaza is also in the vicinity of the site. Royal Plaza is a strip mall that houses several businesses including SouthPaw screen printing, an employment office, and a driving school. Southpaw printing utilizes three suites in the building. One suite involves sales

of printed items to the public. The other two suites are used for production and creation of printed materials. Carolina Best Title Loans is located to the east. Private residences are located to the south, and Cindy's Flower shop is located to the west.

The former Sixty Minute Cleaners facility was part of SCDHEC's Drycleaning Facility Restoration Trust Fund until it was deemed ineligible for the program in May 2016 due to non-payment of fees.

Previous investigations conducted in December 2008 and January 2014 have shown the presence of a chlorinated solvent groundwater plume exceeding applicable MCLs originating at the property and extending offsite towards the north-northwest. Based on the results of this investigation, the horizontal extent of the chlorinated solvent contamination plume has been fully delineated. However, additional groundwater samples may need to be collected to delineate the vertical extent of the plume.

Chlorinated solvent contamination is present in the surface water feature located to the north-northeast of the Walmart Neighborhood Market. The stream appears to originate in a culvert underneath Walmart property. This SI established the furthest downgradient presence of contamination in the stream.

Subsurface vapor issues are present within the footprint of the known groundwater contamination plume associated with the Sixty Minute Cleaners site. Analyses taken from passive soil gas samplers distributed over the footprint of the plume showed the presence of various chlorinated solvent compounds including PCE, TCE, and cis-1,2-DCE. The highest concentrations of these compounds in soil gas were present closest to the source of the contamination at the Sixty Minute Cleaners site. However, soil gas contamination was found to be present around all the buildings that were tested as part of the investigation including 1st Pane Auto Glass, Cindy's Flower Shop, Carolina's Best Title Loans, Bank of America, Royal Plaza, and Walmart Neighborhood Market.

Indoor air contamination was found to be present at levels exceeding applicable RSLs in samples collected at 1st Pane Auto Glass, SouthPaw Screen Printing (Business / Sales Office), and an additional empty office space in Royal Plaza. Although, contamination in 1st Pane Auto Glass and the empty office space may be attributable to the Sixty Minute Cleaners site, the high levels present in SouthPaw Screen Printing (Business / Sales Office) may be attributable to the use of chemicals or solvents within that particular business.

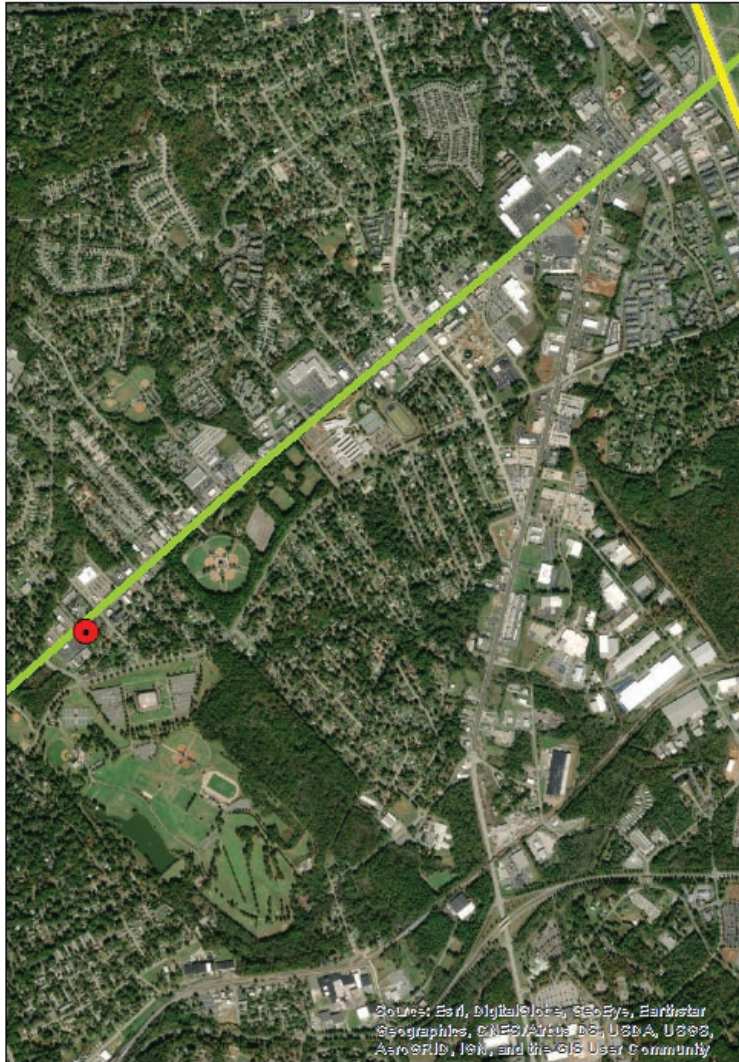
Due to the presence of chlorinated solvent contamination in the nearby stream and the presence of indoor air contamination exceeding applicable RSLs within several buildings at the site, the FSSA section recommends that the site be forwarded to an appropriate area within SCDHEC for further evaluation and determination for potential remedial activities. The FSSA recommends no further assessment under the CERCLA program due to the lack of firm attribution in air samples collected for this investigation. Also, the combination of actual and potential targets does not justify further assessment activities in federal Superfund.

7.0 REFERENCES

1. Memo to File, dated March 22, 2016. Bergstrand to BLWM File #52665 (EPA ID 981759269). BLWM Bureau File Management System. File #52665, document 22. Complete document available at SCDHEC.
2. Google Earth. Last accessed January 2019.
3. www.latlong.net Last accessed January 2019
4. Drycleaning Facility Registration Application. BLWM Bureau File Management System. File #52665 (EPA ID 981759269), document 1. Available at SCDHEC.
5. <https://maps.yorkcountygov.com/gvh5/index.html?viewer=planning> Last accessed October 2018.
6. Drycleaning Restoration Trust Fund Ineligible Status Letter, Bergstrand to Irwin, dated May 17, 2016. BLWM Bureau File Management System. File #52665 (EPA ID 981759269), document 25. Available at SCDHEC.
7. Data Report for Soil Sampling, Groundwater Profiling, Monitoring Well Sampling, Surface Water Sampling, and Vapor Intrusion Sampling for Sixty Minute Cleaners, Rock Hill, York County, South Carolina (SCDHEC Project No. 52665) dated, July 29, 2016. Submitted to SCDHEC by Ecology & Environment. BLWM Bureau File Management System. File #52665, document 27. Available at SCDHEC.
8. Correspondence Bergstrand to McInnis, dated June 27, 2016. BLWM Bureau File Management System. File #52665, document 26. Available at SCDHEC.
9. Extended PreCERCLIS Screening Report, dated May 7, 2019. Complete Report Available at SCDHEC.
10. www.aqrcolortec.com. Last accessed April 2019.
11. SCDHEC Intranet Citrix Server
<http://coitsxa-wiv01.dhec.sc.gov/Citrix/XenApp/site/default.aspx>
Subfolder:
M:\gisapp\EQCAPP\BLWM\BLWMapp\Drycleaning\DrycleaningCDProject\DrycleaningGPSUpdate
12. SoilWeb: An Online Soil Survey Browser.
<http://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx>. Accessed in April 2019
13. Email Correspondence. 5310 Beacon PSG Soil Maps sent by Ryan Schneider (Beacon) to Ben Bair (SCDHEC), dated August 26, 2019. Complete Report available at SCDHEC.
14. USEPA Regional Screening Level (RSL) Table, dated November 2018
15. <https://www.epa.gov/vaporintrusion/vapor-intrusion-screening-level-calculator>
16. SCDHEC, GIS Citrix Server. 2006 Aerial Photographs. Available at SCDHEC.

APPENDIX A: FIGURES AND TABLES

Figure 1
Site Location Map
Sixty Minute Cleaners
Site Investigation
Rock Hill, SC



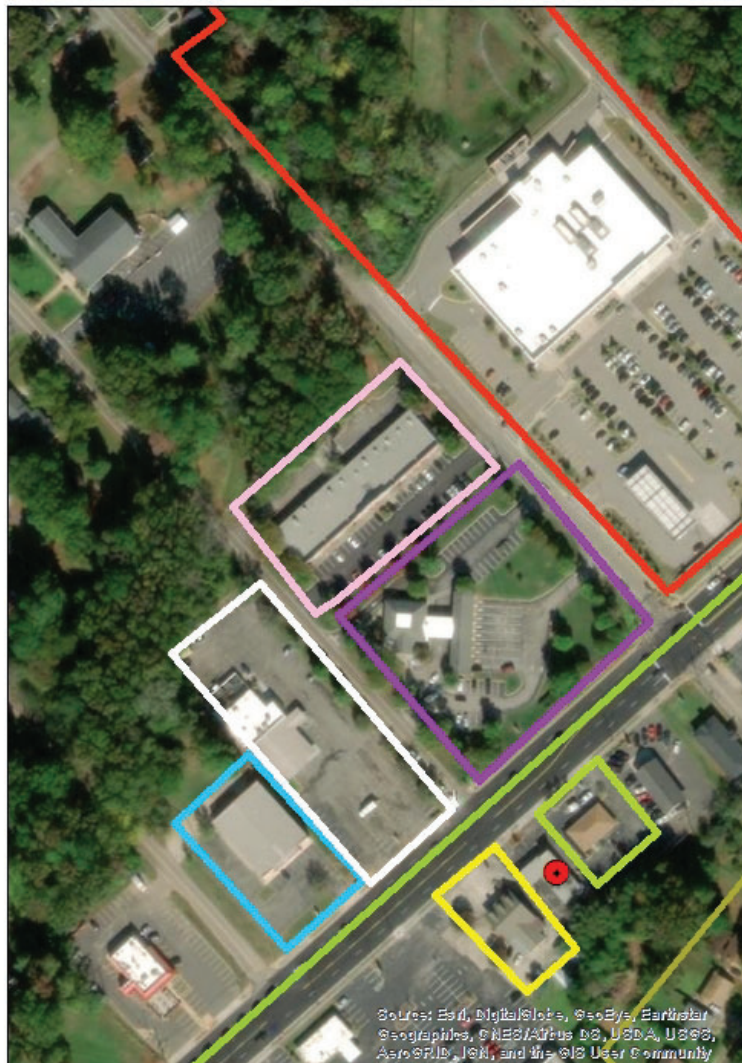
Legend

- Sixty Minute Cleaners
- I-77
- Cherry Rd

0 0.225 0.45 0.9 Miles

(Reference #15)

Figure 2
Site Vicinity Map
Sixty Minute Cleaners
Site Investigation
Rock Hill, SC



Legend

- Sixty Minute Cleaners
- Royal Plaza
- Walmart Neighborhood Market
- Cherry Rd
- Residential
- Bank of America
- You Select Auto Sales
- Carpet & Rug Superstore
- Carolina's Best Title Loans
- Cindy's Flower Shop

0 0.02 0.04 0.08 Miles

(Reference #15)

Figure 3
Groundwater and Surface Water Locations w/ PCE Concentrations
Sixty Minute Cleaners, Rock Hill, SC

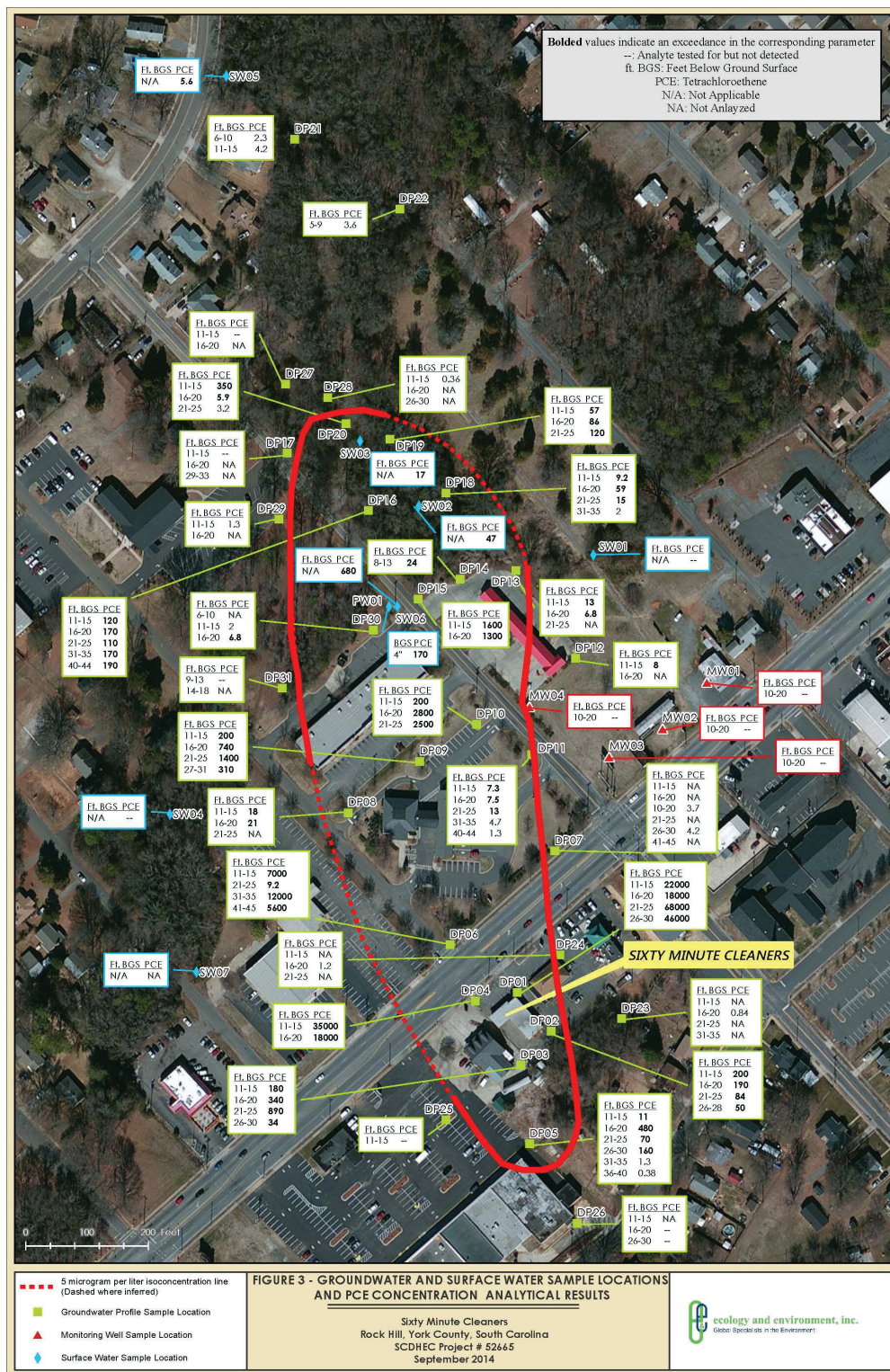
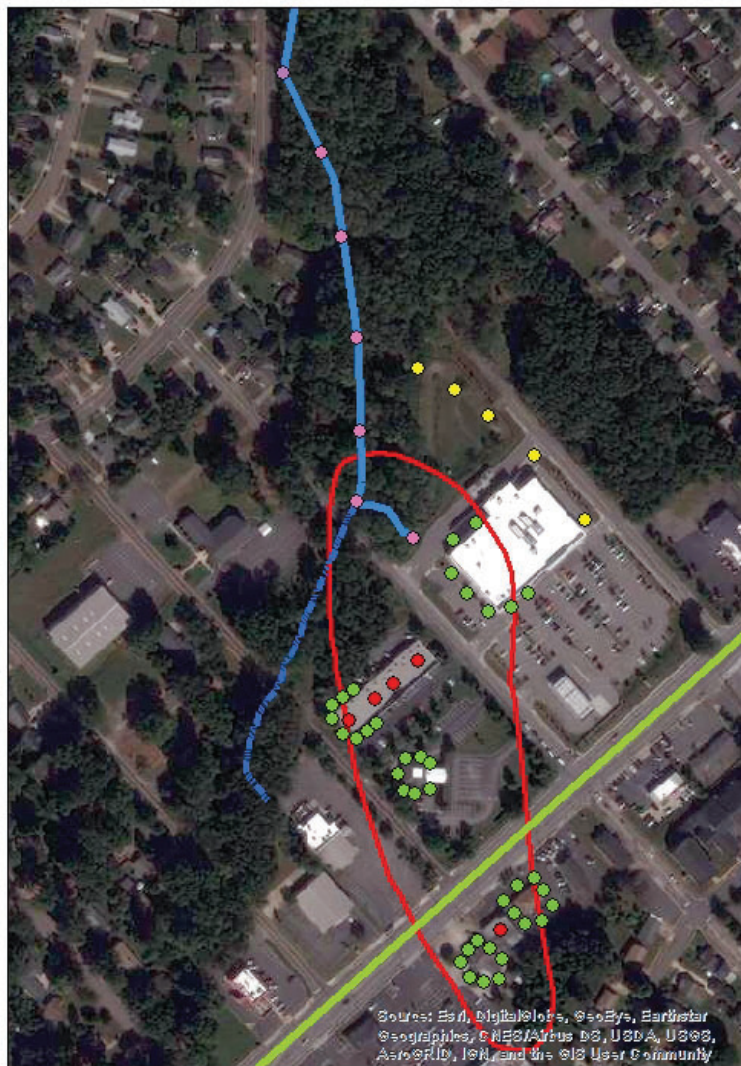


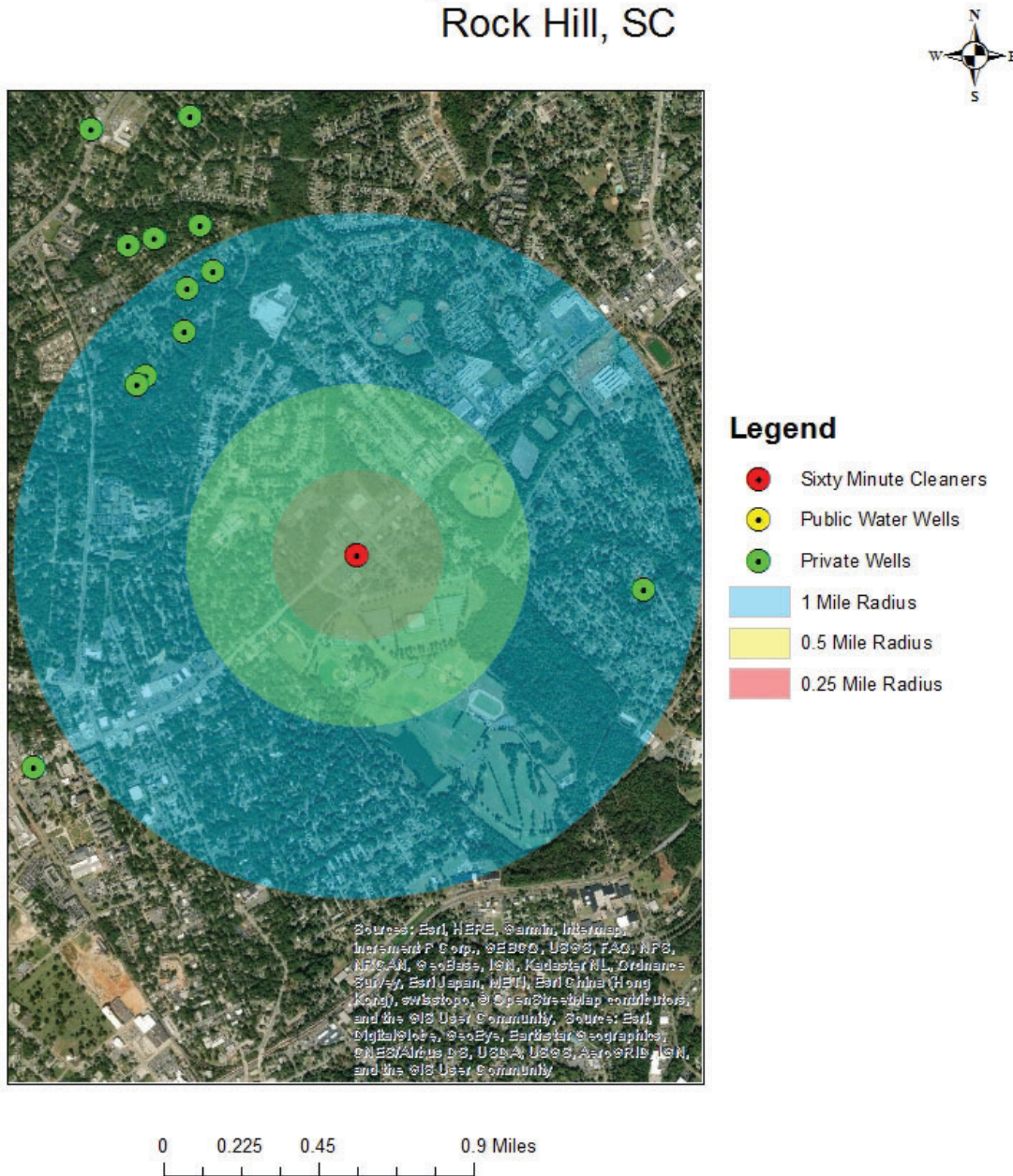
Figure 4
Sampling Locations
Site Investigation
Sixty Minute Cleaners
Rock Hill, SC



Legend

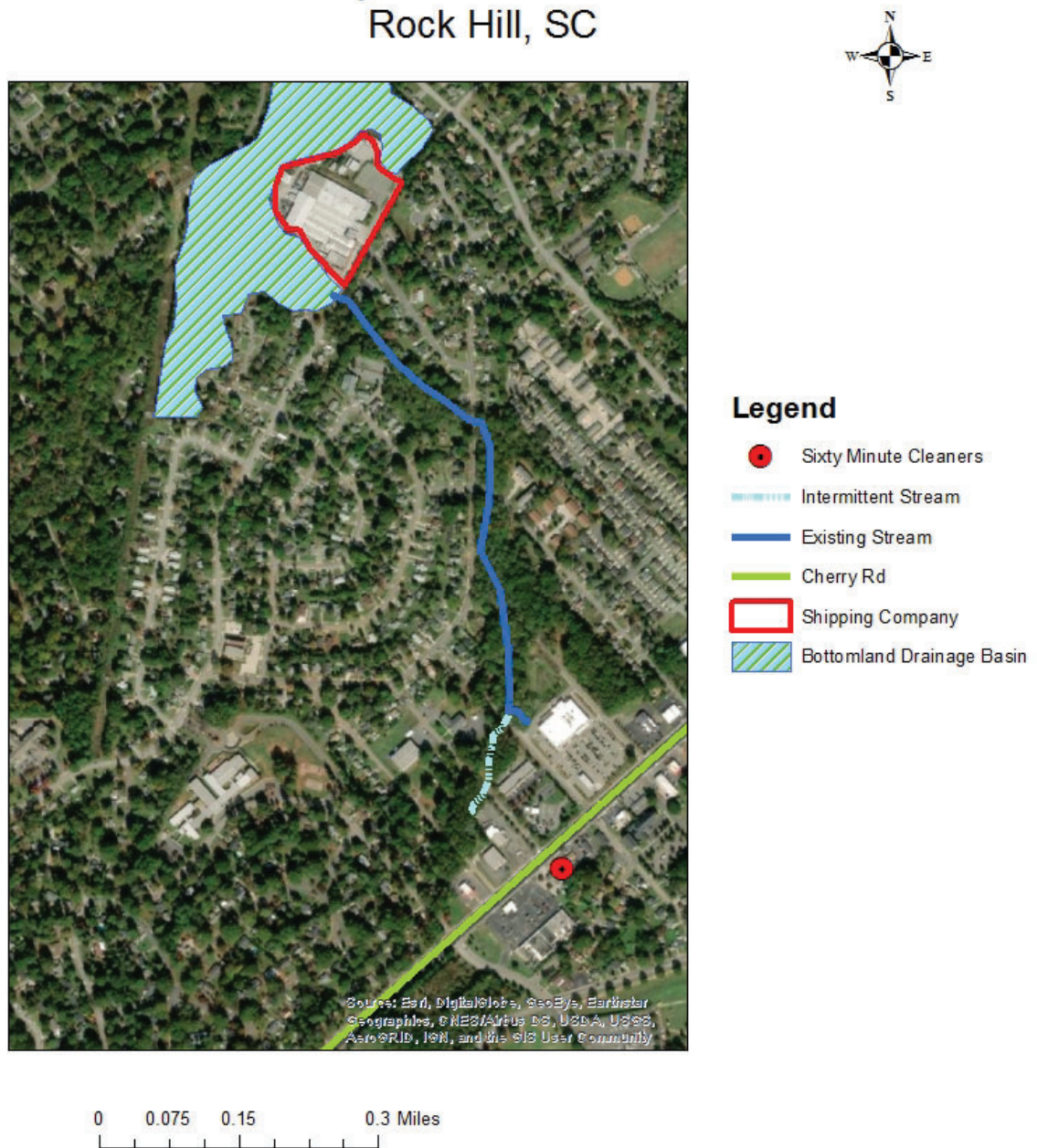
- Indoor Air Samples
- Surface Water Samples
- Beacon Samples
- Groundwater Samples
- Intermittent Stream
- Surface Water
- GW Plume (Horizontal Boundary)

Figure 5
Nearby Public & Private Water Usage
Sixty Minute Cleaners
Rock Hill, SC



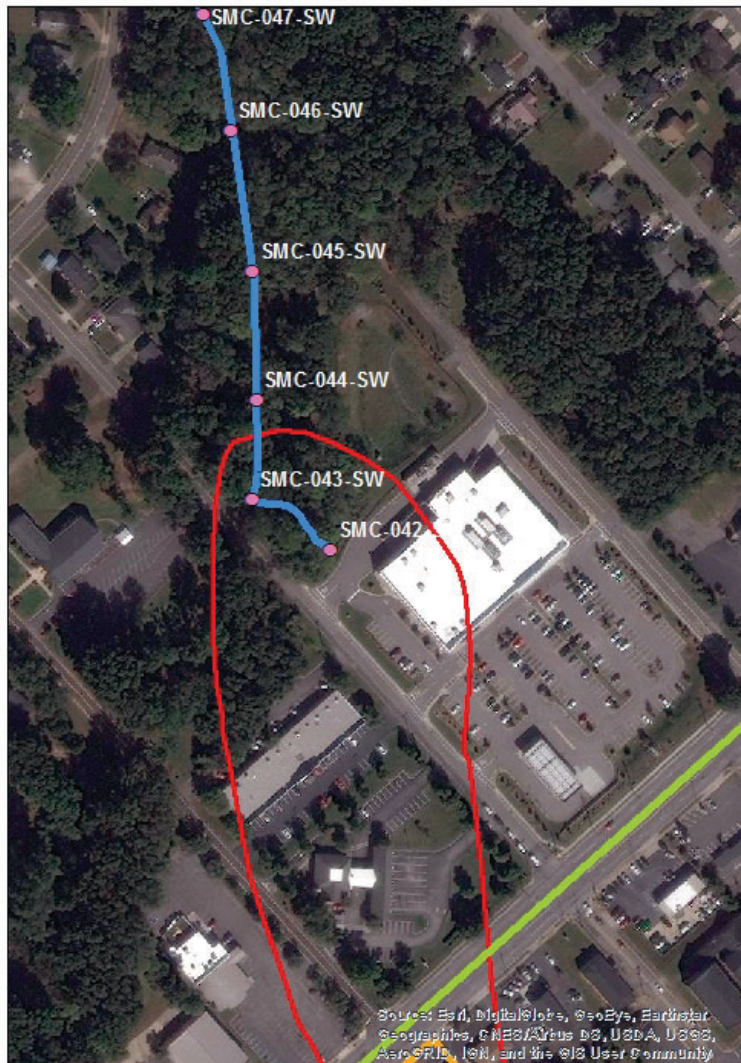
(Reference #15)

Figure 6
Surface Water Pathway Map
Sixty Minute Cleaners
Rock Hill, SC



(Reference #15)

Figure 7
Surface Water Sampling Locations
Site Investigation
Sixty Minute Cleaners
Rock Hill, SC



Legend

- Surface Water Samples
- Intermittent Stream
- GW Plume (Horizontal Boundary)

(Reference #15) (Reference #7)

Figure 12
Indoor Air Sample Locations
Site Investigation
Sixty Minute Cleaners
Rock Hill, SC



Legend

- Indoor Air Samples
- Royal_Plaza
- Cherry Rd
- Sixty Minute Cleaners

0 0.0125 0.025 0.05 Miles

APPENDIX B: SITE COORDINATE COLLECTION

Site Latitude: 34.950911° N
Site Longitude: -81.017953° W
Feature Description: approximate site center

Collection Date: April 2018

Coordinates collected from www.latlong.net

APPENDIX C: TRIP REPORT

Former Sixty Minute Cleaners
Site Investigation Field Trip Report
Ben Bair
SCDHEC Federal & State Site Assessment Section
July 24, 2020

The former Crystal Cleaners site consists of one building that sits on approximately 0.25 acres. The building is currently in use as 1st Pane Auto Glass, a business that repairs and installs auto glass. The area on the outside of the building is completely covered in asphalt.

Field work for the Former Sixty Minute Cleaners site was initiated via multiple field mobilizations. Each mobilization is described in detail below and any qualitative field results collected during that mobilization are included with each.

The following field personnel were involved in the SI field work:

Ben Bair – SCDHEC Site Assessment Section, Project Manager

Jarrett Wilson – SCDHEC Site Assessment Section

Jason Williams – SCDHEC Site Assessment Section

Evan Ethridge – SCDHEC Site Assessment Section

Ray Holberger – SCDHEC Waste Assessment Section

Derick Haydin – Wood PLC (Environmental Consultant for Bank of America)

Mobilization 1

Date: July 21, 2020

Ben Bair, Jarrett Wilson, Evan Ethridge, and Ray Holberger arrived on the site at approximately 0900 hrs. A group meeting area was established in the Walmart Neighborhood Market parking lot. The sampling truck was set up, and assignments were given to each team. Ray and Jason were assigned to collect surface water samples. Evan and Jarrett were assigned to collect Beacon samples. Ben was assigned to deploy summa canisters for indoor air samples. Shortly after deploying all of the cans, Ben returned to the truck to run surface water samples for Colortec. Summa canisters were deployed in the following locations

- SMC-049-IA – 1st Pane Auto Glass (Sixty Minute Cleaners source location)
- SMC-050-IA – Southpaw Screen Printing and Embroidery (Business Office & Sales)
- SMC-052-IA – Empty office space
- SMC-053-IA – Empty space (Former Beauty Salon)
- SMC-055-IA – Southpaw (Production Area)

Evan and Jarrett began installing Beacon samplers at Cindy's Flower Shop. When they completed the installation there, they moved to Carolina Best Title Loans. Then they moved to Royal Plaza and installed Beacons there. Around this time, Ray and Jason completed collecting their surface water samples, so they assisted Evan and Jarrett in installing the Beacons at Royal Plaza.

At around 1400 hrs, the installation of the Beacons at Royal Plaza was completed. We stopped field work for the day because, we had previously told Bank of America that the field work on the property wouldn't happen until July 22, and we wanted to wait until Thursday to serve the warrant to the manager of the Walmart Neighborhood Market because at the time, Ben didn't have a paper copy of the original property access letter that had been sent to Walmart.

At around 1430 hrs, Jason, Evan, and Ray departed the site. Jarrett and Ben stayed behind to pick up the summa cannisters that had been deployed earlier that morning.

At around 1700 hrs, the summa can at 1st Pane Glass was picked up. Between 1730 and 1800, all of the cans at Royal Plaza were picked up. Jarrett Wilson and Ben Bair departed the site at approximately 1800 hrs. Ben drove back to Building 15 in State Park and locked all of the indoor air samples in Building 15 overnight.

Field Notes (Mobilization 1)

Indoor Air Sample Notes

- SMC-049-IA – 1st Pane Glass, sample collected (1139 Cherry Rd. Rock Hill, SC)
- SMC-050-IA – Southpaw Printing, sample collected (Main Office) (Royal Plaza, Suite 102)
- SMC-051-IA – Did not collect this sample because the proposed location was a production area for Southpaw, and a sample was already planned for an additional production area located at the end of the building.
- SMC-052-IA – Currently unoccupied office space, sample collected (Royal Plaza, Suite 106?)
- SMC-053-IA – Currently unoccupied space, former location of a beauty salon (Royal Plaza, Suite 108)
- SMC-054-IA – Did not collect a sample from this space because the unit was currently being used as the office for a driver's education school. The property manager didn't have a key to this unit, and when the owner of the business eventually showed up, it was after 1000, and he said he would leave well before 6 pm. We did not have the opportunity to collect an 8-hr sample.
- SMC-055-IA – Southpaw printing production area. (Royal Plaza, Suite 110). Sample collected

Surface Water Sample Notes

- SMC-042-SW was the furthest upstream sample and SMC-047-SW was the furthest downstream sample
- Samples SMC-039-SW through SMC-041-SW were not collected because the stream had dried up in the locations where these samples were proposed
- The location of SMC-042-SW was moved from its proposed location on the QAPP. The new location was located east of the proposed location closer to the Walmart, and the location is believed to be on Walmart property.
- SMC-042-SW was located in close proximity to where a group of homeless people were living in a makeshift shelter. It's unknown whether or not they come into physical contact with the surface water near this location.

Surface water was collected from each of the sampling locations listed in Table 1 below. Each sample was immediately screened for chlorinated solvents by Ben at the sampling van using the AQR Colortec® method. Qualitative results showing showing total chlorinated solvents in each sample are detailed in Table 1 below.

Table 1

Sample ID	GPS Coordinates	Depth (ft)	Time (hrs)	Colortec Result	Conc. Range(ppb)
SMC-042-SW	34.953341 -81.018551	N/A	N/A	0.6/LL/200 mL	10-20
SMC-043-SW	34.953520 -81.019177	N/A	N/A	0.75/LL/100 mL	40-75
SMC-044-SW	34.953901 -81.019028	N/A	N/A	0.6/LL/100 mL	25-45
SMC-045-SW	34.954367 -81.019097	N/A	N/A	0.5/LL/200 mL	25-45
SMC-046-SW	34.954882 -81.019193	N/A	N/A	Trace/LL/200 mL	Trace
SMC-047-SW	34.955405 -81.019239	N/A	N/A	ND/LL/100	0

ND = Non-detect

N/A = Not applicable

mL = milliliters

ppb = parts per trillion

*All samples collected on 7-21-20

*All GPS coordinates collected from www.latlong.net

Mobilization 2

Date: July 22, 2020

Evan and Jarrett met with Derick Haydin at the Bank of America complex. They started installing Beacon samplers on the property at approximately 0900. Evan and Jarrett installed the Beacons and Derick observed and took notes of the activities. The installation was completed and all parties left the site at approximately 1000.

Mobilization 3

Date: July 23, 2000

Ben arrived at the site at approximately 0615 and began operating the Geoprobe. He began installing the temporary well at SMC-056-GW. Jarrett arrived on-site at approximately 0715. When Jarrett arrived, Ben went inside and served the inspection warrant to the store manager in Walmart. She took the warrant and the access letter and made copies of them and called someone. She returned shortly and told me that I could begin the work on Walmart property.

Evan and Jason arrived onsite at approximately 0900. They began installing Beacon samplers on Walmart property. Ben and Jarrett finished installing the temporary wells shortly after they

arrived. Ben began assisting Evan and Jason. Jarrett began testing the groundwater samples using Colortec®

Field Notes (Mobilization 3)

Using the Geoprobe 6600 drill rig, team members installed five (5) direct push temporary wells in an effort to delineate the horizontal extent of the chlorinated solvent plume in groundwater. Depth to groundwater was estimated to be 15 ft bgs. Details of the temporary wells is also shown in Table 2.

Groundwater was collected from each sampling location and screened for chlorinated solvents using the AQR Colortec® method shortly after all of the temporary wells were installed. Qualitative results showing total chlorinated solvents in each well are detailed in Table 2 below.

Table 2

Sample ID	GPS Coordinates	Depth (ft)	Time (hrs)	Colortec Result	Conc. Range(ppb)
SMC-056-GW	34.953380 -81.017197	15-19	N/A	ND	0
SMC-057-GW	34.953816 -81.017671	15-19	N/A	ND	0
SMC-058-GW	34.954070 -81.017906	15-19	N/A	ND	0
SMC-059-GW	34.954301 -81.018192	15-19	N/A	ND	0
SMC-060-GW	34.954450 -81.018495	15-19	N/A	ND	0

ND = Non-detect

N/A = Not applicable

mL = milliliters of air

ppb = parts per billion

*All samples were collected on 7-21-20

*All GPS coordinates collected from ArcGIS Collector app (Ben Bair's SCDHEC issued iPhone)

All borings were properly abandoned upon completion. Field work for that day was concluded at around 1000, 2020. Ben Bair, Jarrett Wilson, Evan Ethridge, and Jason Williams departed the site at approximately 1000

Mobilization 4

Date: August 6, 2020

Ben Bair and Jarrett Wilson arrived on-site at approximately 0900 to retrieve passive soil gas samplers that had been deployed during the course of field work conducted on the week of July 20, 2020. They started at Cindy's Flower shop. They met Derick Haydin from Wood PLC at approximately 1000 to retrieve passive soil gas samples from the Bank of America Complex. Then they retrieved samplers from Carolina's Best Title Loans, Royal Plaza and Walmart Neighborhood Market. While retrieving samplers from Carolina's Best Title Loan property, SMC-018-SG was destroyed.

Each sampler was retrieved from its sampling location by pulling the sampling vial from its location and replacing the septa cap on the vial with a non-septa cap. Each vial was labeled according to its sampling location and put in a shipping bag. After each sampler was retrieved from its location, the sample hole was either backfilled with dirt or concrete / asphalt patch depending on the media that it was deployed in.

Ben Bair and Jarrett Wilson finished retrieving the samplers and left the site at approximately 1145. Ben Bair prepped the samples for shipment on August 7, 2020, and shipped them to Beacon labs via FedEx on the same day.

APPENDIX D : ATTACHED REFERENCES